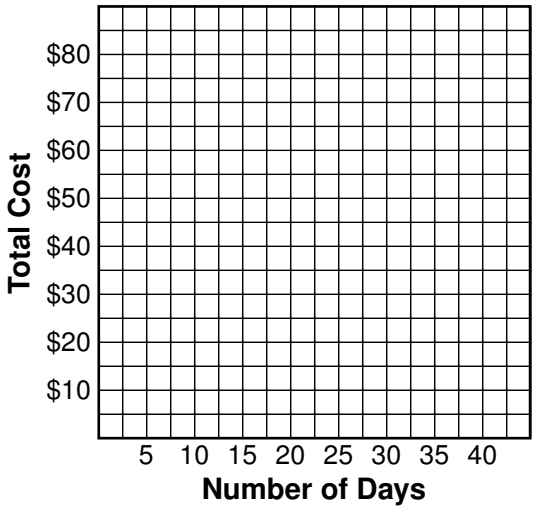
Asset #57237.000 **6380 - KY - Green River, Mathematics, Grade 8, SEQ #: 1 EQ: N**

Asset Type: Constructed Response / Calculator: Non-Calculator
MA-08-3.3.01: Coordinate Geometry - Students will identify and graph ordered pairs on a coordinate system; correctly identifying the origin, axes, and ordered pairs; and will apply graphing in the coordinate system to solve real-world problems. DOK-2

1. On the grid in your Student Response Booklet, copy the scales and labels shown below.



Haley wants to determine the cheapest way to pay for swimming at the local pool.

- A one-month pass of unlimited swimming costs $45.
- A one-day swimming pass costs $2.

Chart 1, below, shows the cost of swimming using a one-month pass. Copy Chart 2 into your Students Response Booklet.

Chart 1

Number of Days of Actual Swimming	Cost Using One-Month pass
10	$45
20	$45
30	$45

Chart 2

Number of Days of Actual Swimming	Cost Using One-Month pass
10	$20
20	$40
30	$60

a. Complete Chart 2 to show the cost of swimming using **one-day** passes.
b. Plot the points from Chart 1 on the graph in your Student Response Booklet. Draw a line to show the cost of swimming different numbers of times using the one-month pass.
c. Plot the points from Chart 2 on the same graph. Draw a line to show the cost of swimming different numbers of times using one-day passes.
d. What is the **fewest** number of days that Haley would have to swim to make the one-month pass cheaper than buying one-day passes? Explain how you found your answer.

Asset #57237.000 **6380 - KY - Green River, Mathematics, Grade 8, SEQ #: 1 EQ: N**

Scoring Guide

Score	Description
4	The student response demonstrates an exemplary understanding of the Geometry concepts involved in graphing ordered pairs and applying graphing in the coordinate system to solve real-world problems.
3	The student response demonstrates a good understanding of the Geometry concepts involved in graphing ordered pairs and applying graphing in the coordinate system to solve real-world problems. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Geometry concepts involved in graphing ordered pairs and applying graphing in the coordinate system to solve real-world problems. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Geometry concepts involved in graphing ordered pairs and applying graphing in the coordinate system to solve real-world problems.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

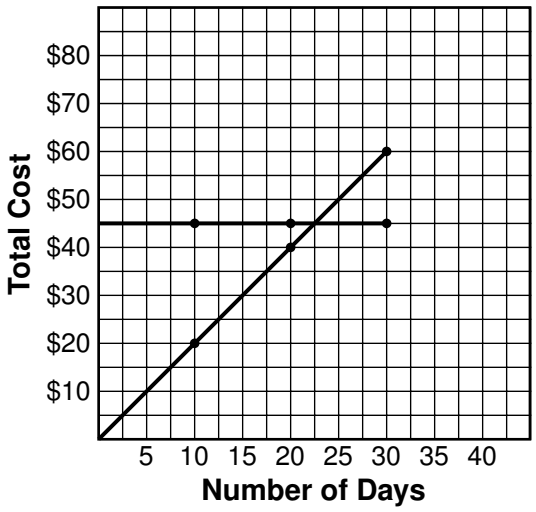
Sample Response:

Part a:

Chart 2

Number of Days of Actual Swimming	**Cost Using One-Day Passes**
10	**$20**
20	**$40**
30	**$60**

Parts b and c:



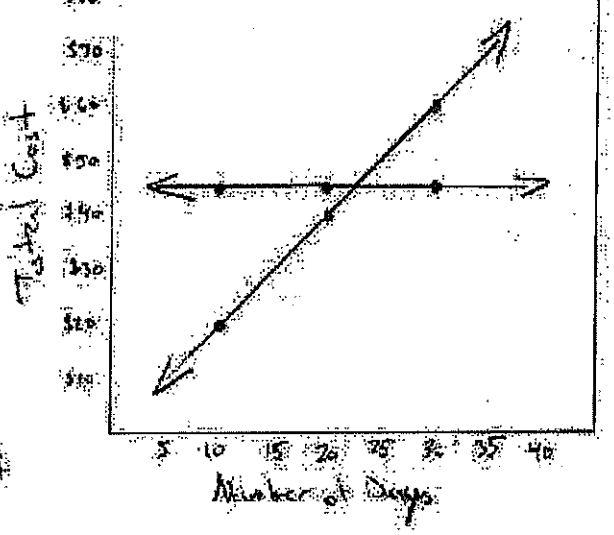
Part d: 22 one-day passes cost $44 but 23 one-day passes cost $46.

So the one-month pass is cheaper if she swims 23 days.

16.

A

# of Days at Natural Swimming	Cost using one Day Passes
10	20
15	40
20	60



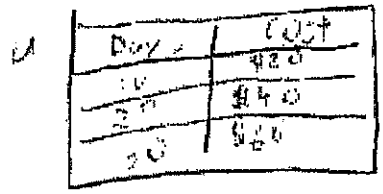
D. 23 I got 23 because for 23 days with an one-day pass it would cost $46. For a month pass it would cost $45. That is the lowest amount of days.

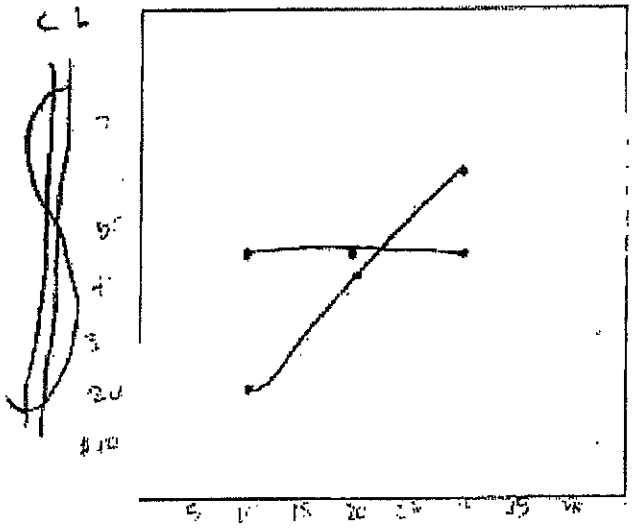
Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333908	**Response Code:** MA01216	

4

A

16.





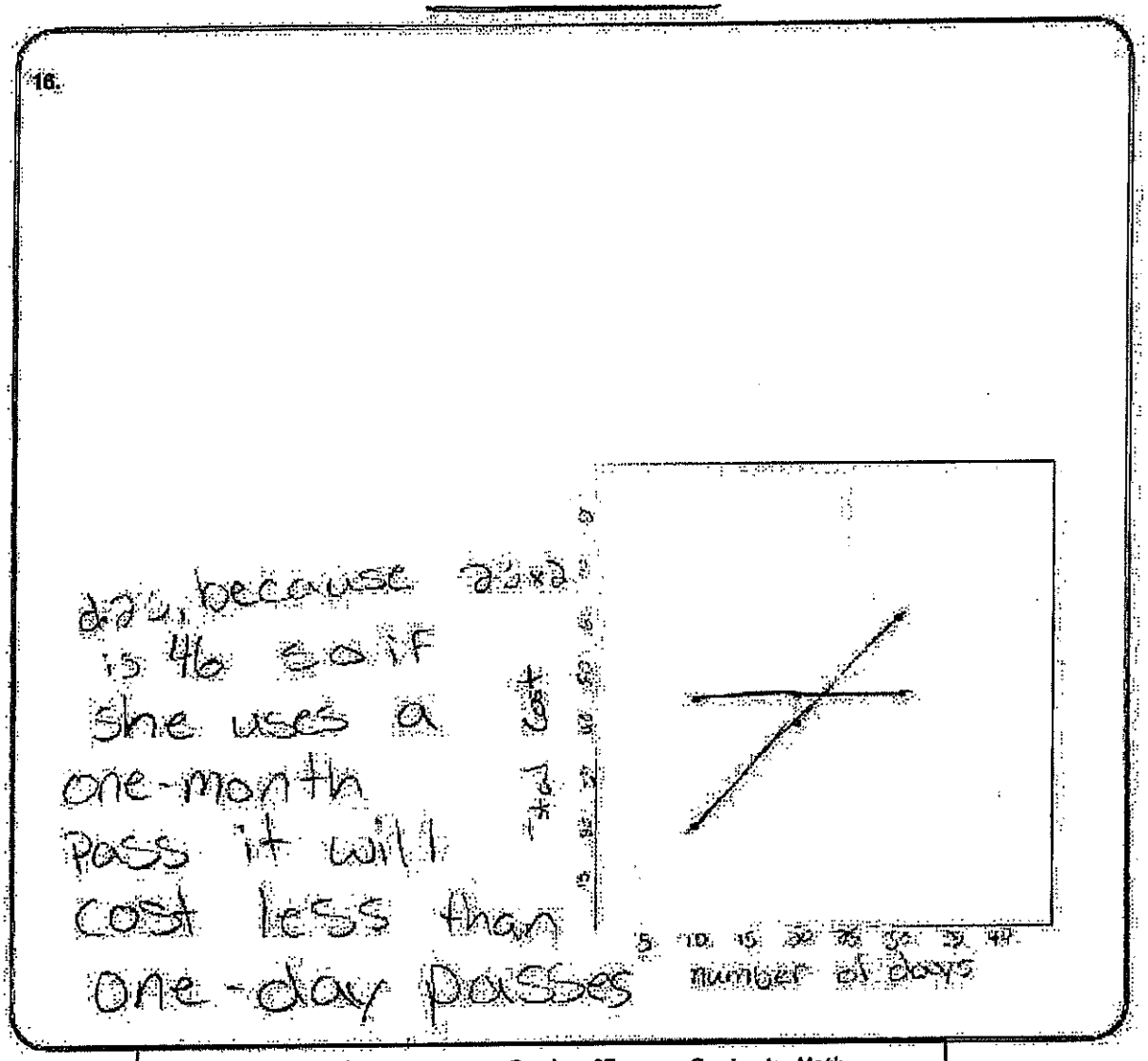
d 23 days of swimming I looked at the chart

Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333536	**Response Code:** MA01216	

3

1
1
1
1

16.



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333858	**Response Code:** MA01216	

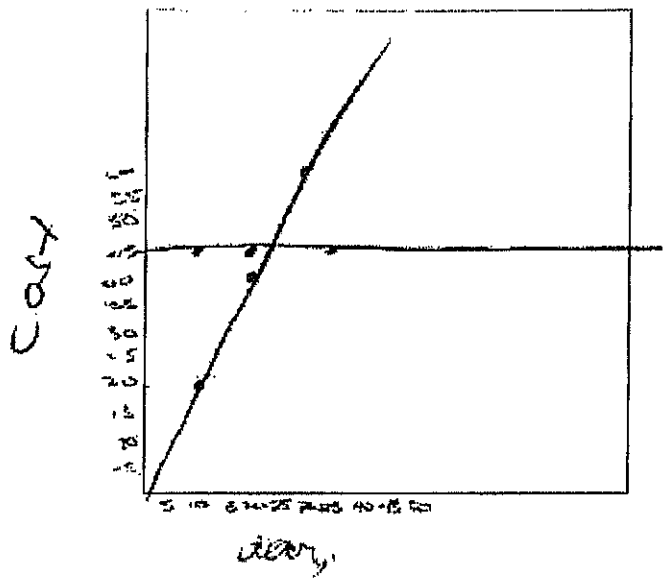
3 0 1 1 2

1

16.

# of days Swim	one day $
10	45
20	45
30	45

# days	$
10	20
20	40
30	60



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333094	**Response Code:** MA01216	

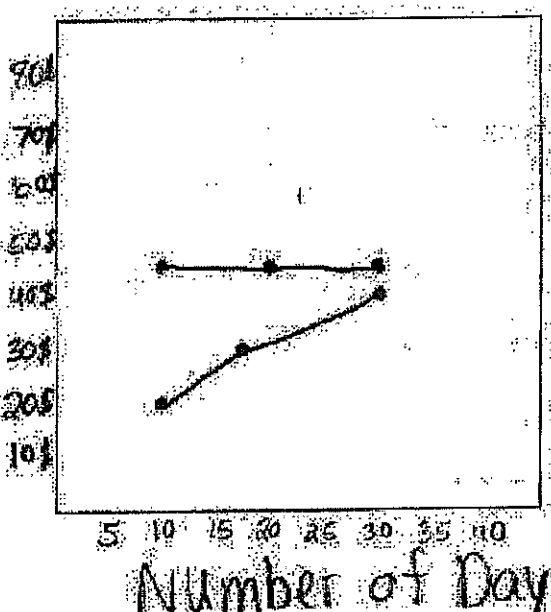
2 1 1 0

T

16. Chart 2

Number of Days Actual Swimming	Cost Using One Day Passes
10	20
20	30
30	40

D. 12 day because the one day pass cost 2$. I times the number in the box by two.



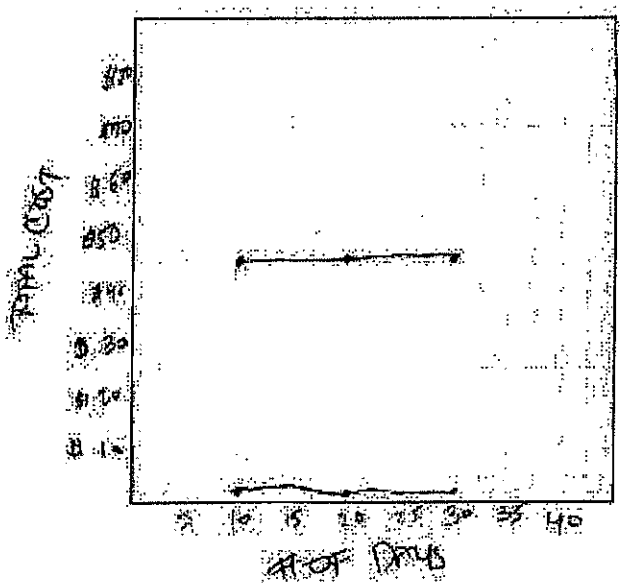
Contract: 6351 Math **Grade:** 07 **Content:** Math

Booklet: 1403333685 **Response Code:** MA01216

2 0 1 0

A

16.



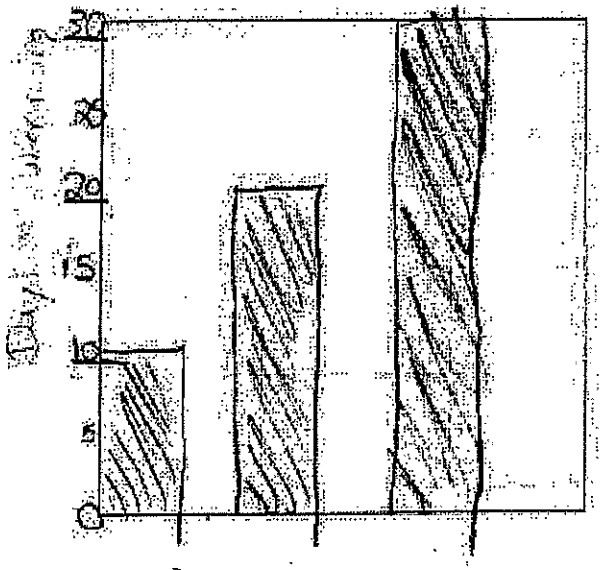
Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403334394	**Response Code:** MA01216	

1 0 1 0 0

A

16.

Number of Days Rented	Cost (in dollars)
10	$4.50
20	$8
30	$13.50



Contract: 6351 Math **Grade:** 07 **Content:** Math

Booklet: 1403333606 **Response Code:** MA01216

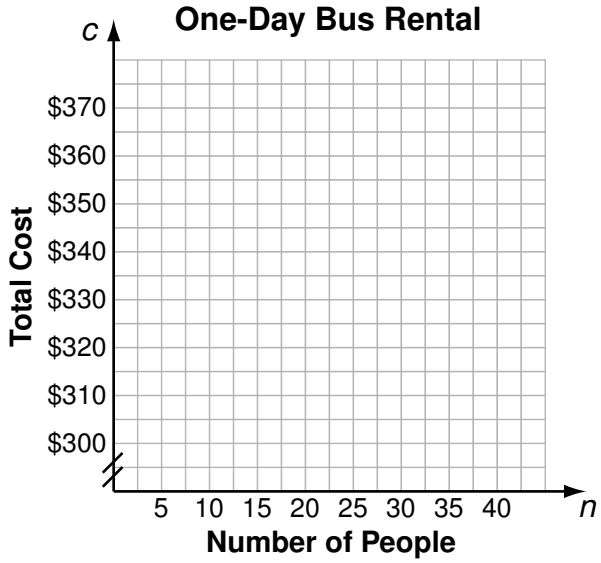
Asset Type: Constructed Response / Calculator: Non-Calculator
MA-08-5.1.02: Patterns, Relations and Functions - Students will represent, analyze, and generalize functions using tables, graphs, words, and algebraic expressions, and will apply the functions to solve real-world problems. DOK-2

2. Mr. Bennett's class is renting a bus for a field trip. The bus company charges $300 for a one-day rental plus $2 for each person who rides the bus.

   a. Create a table that shows the cost for a one-day rental when transporting the following groups of people:
      - a group of 10 people,
      - a group of 20 people, and
      - a group of 30 people.

   b. Write an equation that shows the relationship between the total cost, c, of a one-day bus rental and the number, n, of people transported.

   On the grid in your Student Response Booklet, copy the scales and labels shown below.



   c. Graph the equation you wrote in part b.

Asset #57297.000 **6380 - KY - Green River, Mathematics, Grade 8, SEQ #: 2 EQ: N**

Scoring Guide

Score	Description
4	The student response demonstrates an exemplary understanding of the Algebraic Thinking concepts involved in representing a simple first degree relationship using tables, graphs, and algebraic notations.
3	The student response demonstrates a good understanding of the Algebraic Thinking concepts involved in representing a simple first degree relationship using tables, graphs, and algebraic notations. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Algebraic Thinking concepts involved in representing a simple first degree relationship using tables, graphs, and algebraic notations. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Algebraic Thinking concepts involved in representing a simple first degree relationship using tables, graphs, and algebraic notations.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

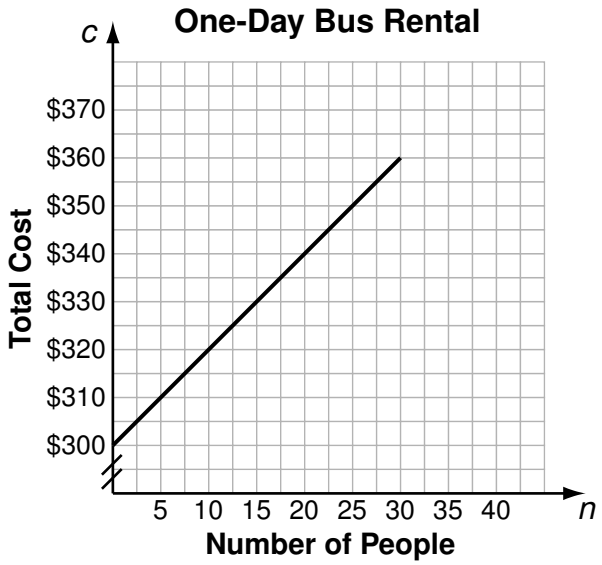
Training Notes

Sample Response:

Part a:

Group size	Cost
10	**$320**
20	**$340**
30	**$360**

Part b: $c = 2n + 300$



Part c:

16. EQUATION: $C = 300 + 2n$

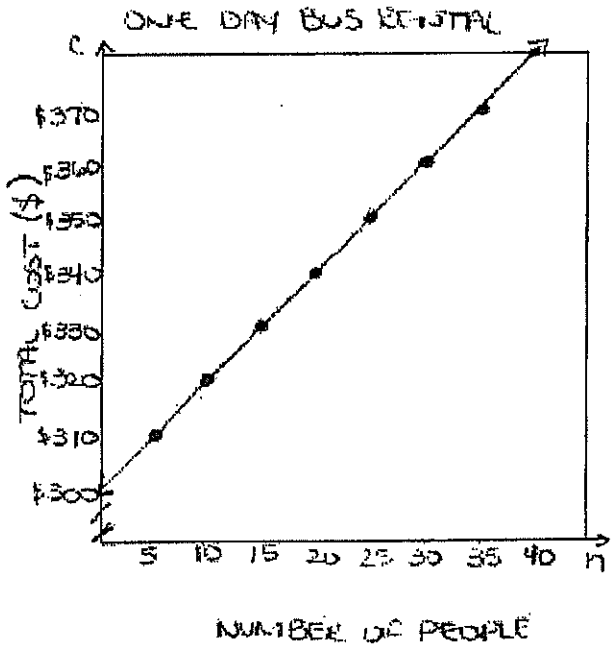
$C = 300 + 2(10) = 320$

$C = 300 + 2(20) = 340$

$C = 300 + 2(30) = 360$

TABLE

# OF PEOPLE	COST (1 DAY)
10	320
20	340
30	360



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403335571	**Response Code:** MA05216	

equation: top left

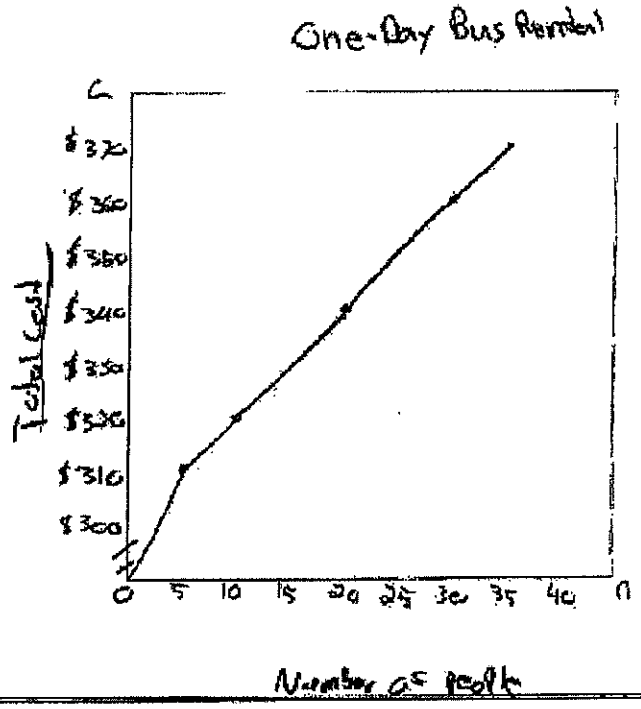
(4)

T

16.

	# of people (n)	Bus rental ($)	cost of people	cost per day (C = 2n + 300)
group1	10	300	2n	320
group2	20	300	2n	340
group3	30	300	2n	360

$C = 2n + 300$



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333090	**Response Code:** MA05216	

+2 a) ✓

+2 b) ✓

+1 c) line through (0,0)
at least one pt ✓

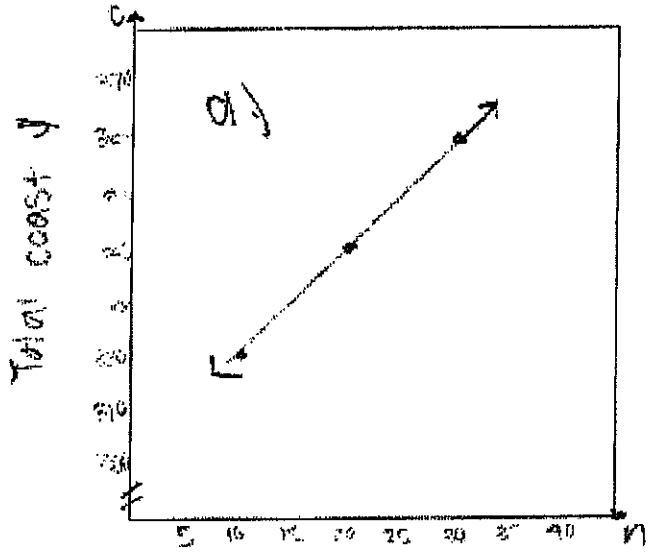
(3) A

15.

b) $n \times 2 + 300 = C$

c) already invited?

one-day Bus Rental



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333615	**Response Code:** MA05216	

0 a) ∅

+2 b) ✓

+2 c) ✓

See rev sub

~~2~~ 3

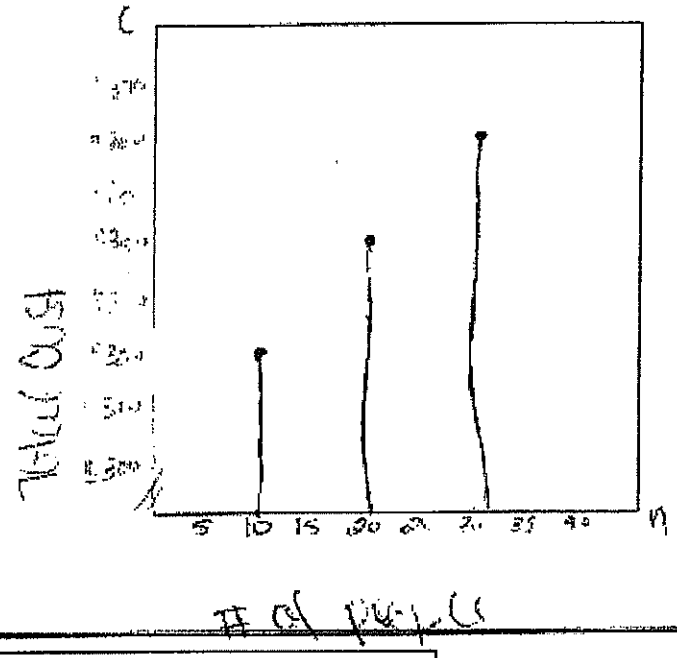
A

16.

a)

1	320
2	340
3	360

b) $C = n(2) + 300$



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333098	**Response Code:** MA05216	

+2 a) ✓

+2 b) ✓

0 c) bar graph

(2)

A

16.

a) 10 people

$320

20 people

$340

30 people

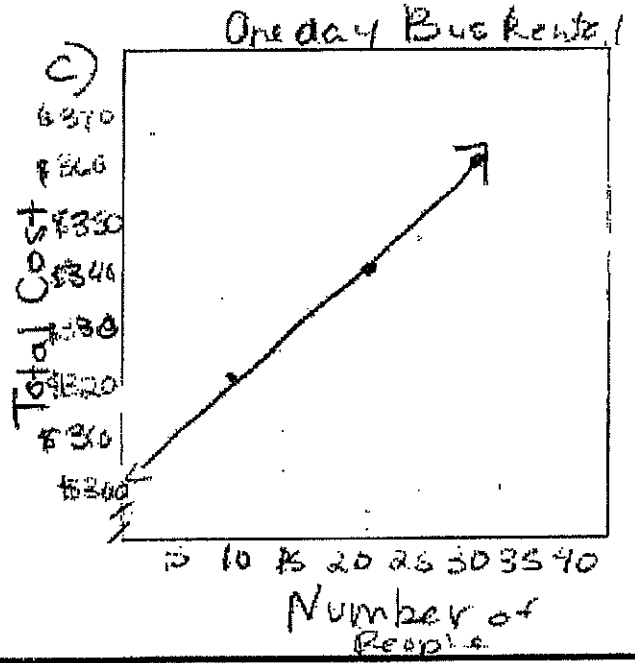
$360

b) C = 300 + 2 × 10

C = 300 + 2 × 20

C = 300 + 2 × 30

c)



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403333825	**Response Code:** MA05216	

+2 a) ✓

0 b) no "n" or "C"

+2 c) ✓

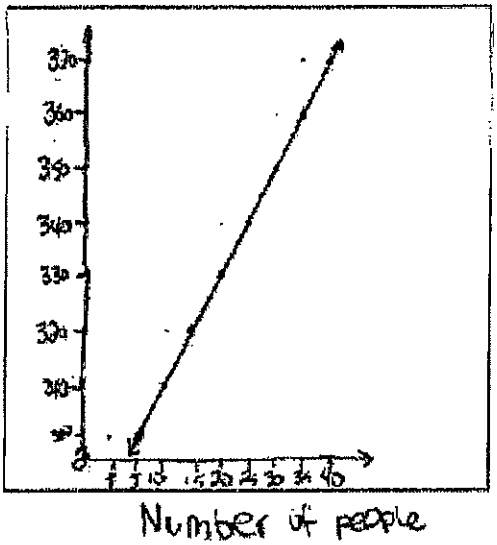
2

1

16. A.)

x	y
10	320
20	340
30	360

B.) $y = 300c + 2N$



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403334675	**Response Code:** MA05216	

+2 a) ✓

0 b) incorrect

0 c) 1 pt correct, but way off

Yes
See addition

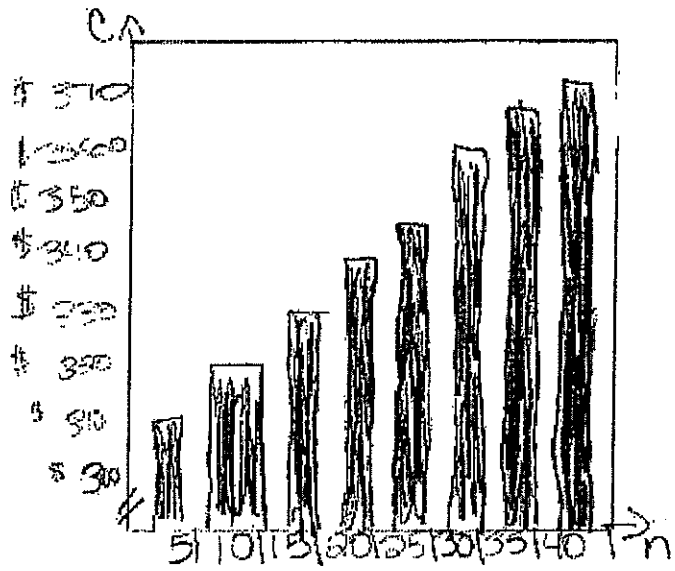
(1)

A

15. a.

	10	20	30
	30	40	50

b. $300 \div n + 2$



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403336095	**Response Code:** MA05216	

+1 a) no flat fee

0 b) incorrect

0 c) bar graph

1

A

16.

# of days [illegible]	cost using [illegible]
10	$45
20	$95
30	$40

Contract: 6351 Math	**Grade:** 07	**Content:** Math	
Booklet: 1403334373	**Response Code:** MA05216		

0 a) incorrect values

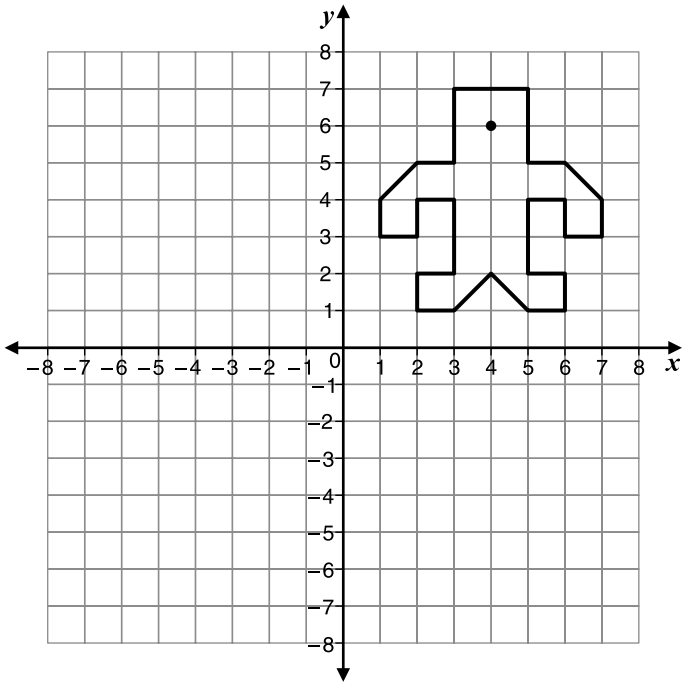
0 b) Ø

0 b) Ø

Ø A

Asset Type: Constructed Response / Calculator: Calculator Neutral
MA-08-3.2.02: Transformations of Shapes - Students will transform (translations, reflections, and dilations with the center of dilation at the origin) figures in a coordinate plane and determine the new coordinates of the shape after the transformation. DOK-2

3. The figure shown on the coordinate plane below is a cyclops with a single eye located at (4, 6) in the middle of its head.



a. If the cyclops is reflected across the y-axis, what will be the new coordinates of its eye?
b. If the cyclops is translated down 3 units and to the left 4 units, what will be the new coordinates of its eye?
c. Describe a transformation that will result in the eye of the cyclops being at (4, –6).
d. Describe another transformation, different from the one you described in part c, that will result in the eye of the cyclops being at (4, –6).

BE SURE TO LABEL YOUR RESPONSES a, b, c, AND d.

Asset #57302.000 **6380 - KY - Green River, Mathematics, Grade 8, SEQ #: 3 EQ: N**

Scoring Guide

Score	Description
4	The student response demonstrates an exemplary understanding of the Geometry concepts involved in transforming a figure on a coordinate plane.
3	The student response demonstrates a good understanding of the Geometry concepts involved in transforming a figure on a coordinate plane. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 ppoints.
2	The student response demonstrates a fair understanding of the Geometry concepts involved in transforming a figure on a coordinate plane. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Geometry concepts involved in transforming a figure on a coordinate plane.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

Sample Responses:

Part a : (–4, 6)

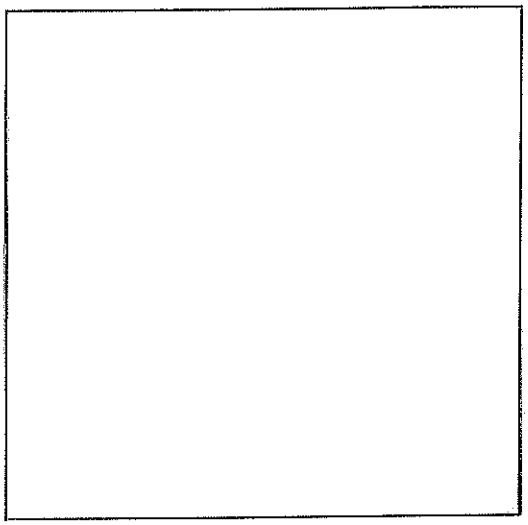
Part b: (0, 3)

Part c: reflection over *x*-axis

Part d: translation down 12 units

16.

a. The new coordinates will be (-4, 0)
b. The new coordinates will be (0, 3)
c. The whole cyclops will have to be moved 12 units down
d. The cyclops being reflected across the x axis



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403334437	**Response Code:** MA04216	
4		

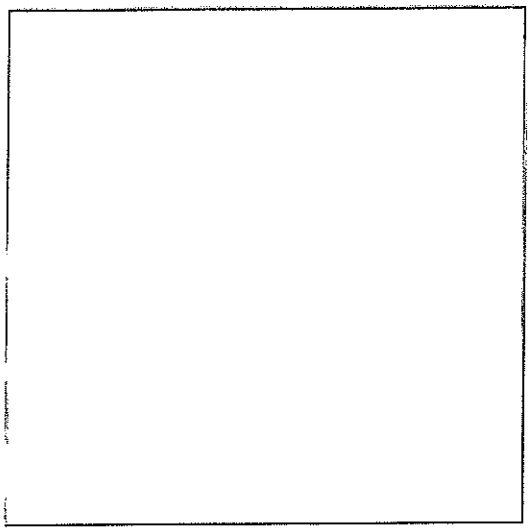
4 T

16. a) (4, 6)

b) (0, 3)

c) The eye would be at (4, -6) If the cyclops was reflected across the x-axis

D) If it is rotated 90° to the right the eye of the cyclops will be at (4, -6)



Contract: 6351 Math **Grade:** 07 **Content:** Math

Booklet: 1403333125 **Response Code:** MA04216

3 d incorrect

1
1
1
0
3

(3)

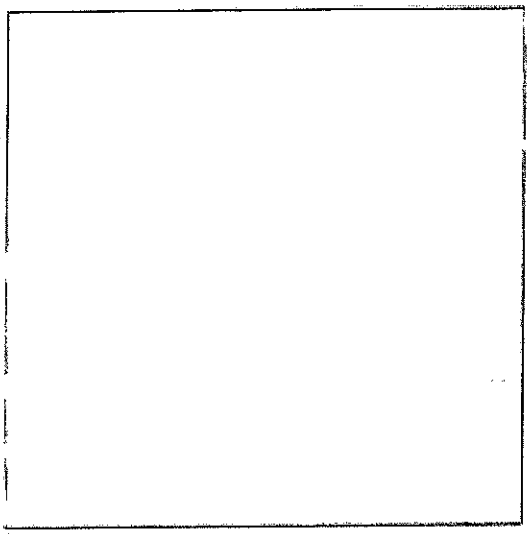
A

16. a. The new coordinates will be (-5, 6)

b. The new coordinates will be (0, 3)

c. A transformation that will result in the eye of the cyclops being at (4, -6) is the cyclops moving 12 units down.

d. Another transformation, that will result in the eye of the cyclops being at (4, -6) is reflecting the cyclops across the x axis.



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403334064	**Response Code:** MA04216	
3	a is correct	

0

1

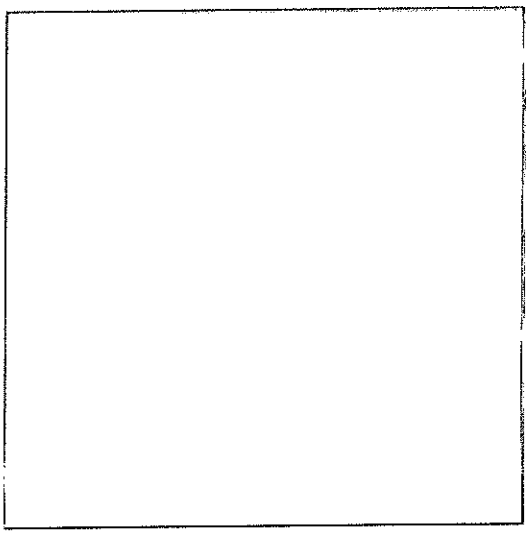
1

1/3

(3)

A

16. A: (4, -6)
B (0,3)
C: if he is translated 12 units down
D: reflected across y axis



Contract: 6351 Math **Grade:** 07 **Content:** Math

Booklet: 1403335766 **Response Code:** MA04216

2 b + a correct

0
1
1
0/2 (2) T

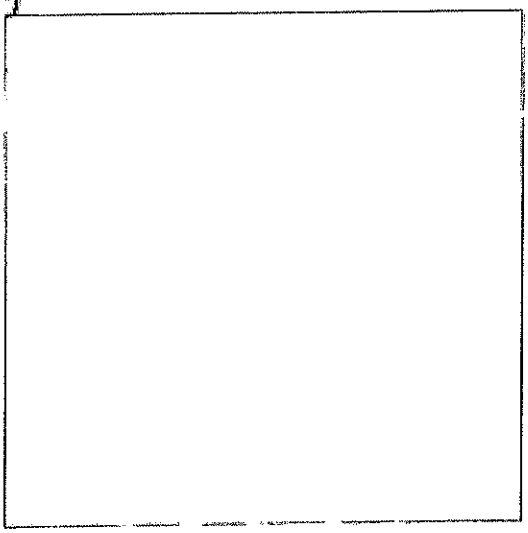
16.

a. (-4, 6)

b. (0, 4)

c. move down twelve

d. move horizontally twelve



Contract: 6351 Math **Grade:** 07 **Content:** Math

Booklet: 1403334804 **Response Code:** MA04216

~~2~~ a + c correct

1
0
1
0
2

(2)

A

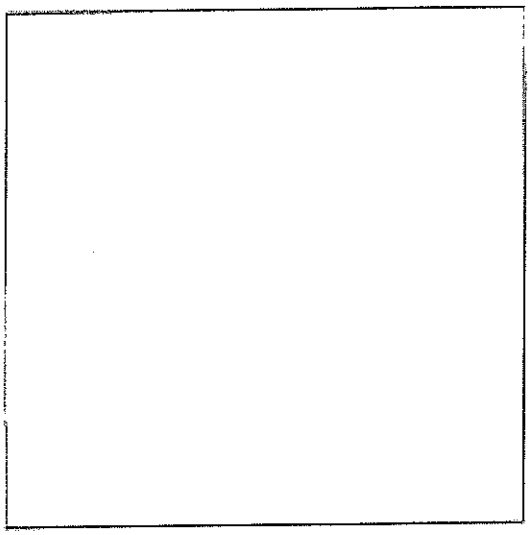
16. a. 0,6
b 0,3
c. It will have been moved down and only the head showing

d $\frac{2}{3}$ of the cyclops body is not showing and looks as though it has only a head.

Contract: 6351 Math
Grade: 07
Content: Math
Booklet: 1403333705
Response Code: MA04216
1. B correct

0
1
0
0
1
0
A

15. a -54
b. -3
c. it will move from facing up to facing down
d. the eye will be at a negative point.



Contract: 6351 Math **Grade:** 07 **Content:** Math
Booklet: 1403333870 **Response Code:** MA04216
0

0 T

Asset Type: Constructed Response / Calculator: Calculator Neutral
MA-08-4.4.01: Probability - Students will apply counting techniques to determine the size of a sample space. DOK-2

4. The choices for breakfast at Washington School are shown on the menu below.

School Breakfast Menu

Cereal	Muffins	Beverages
Wheataloes	Apple Banana	Milk
Fruit Hoops	Blueberry	Orange Juice
Sugar Curls	Chocolate Chip	
	Poppy Seed	

a. How many different combinations are possible if only one selection is made from each category (cereal, muffins, and beverages)? Explain or show how you found your answer.
b. One more item is going to be added to one of the food categories. An item added to which category will produce the **greatest** increase in the number of possible breakfast combinations? Explain your answer.

Asset #57321.000 **6380 - KY - Green River, Mathematics, Grade 8, SEQ #: 4 EQ: N**

Scoring Guide

Score	Description
4	The student response demonstrates an exemplary understanding of the Data Analysis and Probability concepts involved in applying counting techniques to determine the size of a sample space for real-world situation and to solve a real-world problem.
3	The student response demonstrates a good understanding of the Data Analysis and Probability concepts involved in applying counting techniques to determine the size of a sample space for real-world situation and to solve a real-world problem. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result the response merits 3 points.
2	The student response demonstrates a fair understanding of the Data Analysis and Probability concepts involved in applying counting techniques to determine the size of a sample space for real-world situation and to solve a real-world problem. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Data Analysis and Probability concepts involved in applying counting techniques to determine the size of a sample space for real-world situation and to solve a real-world problem.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

Sample Response:

Part a: $3 \times 4 \times 2 = 24$

Part b: Adding 1 cereal, the total is $4 \times 4 \times 2 = 32$.

Adding 1 muffin, the total is $3 \times 5 \times 2 = 30$.

Adding 1 beverage, the total is $3 \times 4 \times 3 = 36$.

15.

(a) There are 24 different combinations for letter a. I found this out by multiply all of the cereals by the muffins, and by the beverages.

Cereals		Muffins		Beverages		
3	×	4	×	2	=	24 combinations

(b) An item added to the beverage group will produce the biggest increase because it will be more to choose from and many more combinations will be able to be made.

Added to: (total)

C	M	B
32	30	(36) ← Most combinations!

Contract: 6351 Math	**Grade:** 07	**Content:** Math	
Booklet: 1403330574	**Response Code:** MA06216		A

4

16. (A) 24 different breakfast combinations

(B) Beverages

Because, before there are 24 with one more to beverages their are 36 different choices and only 30 if you add one to beverages and only 32 if you add one to Cereal.

Contract: 6351 Math	**Grade:** 07	**Content:** Math	
Booklet: 1403331191	**Response Code:** MA06216		A

+1 a) answer only

+0 b) ✓

16.

Combo at breakfast

Whole Grains	Fruit Types	Sugar Curls
WAM	FAM	SAM
WBM	FBM	SBM
WCM	FCM	SCM
WSPM	FSPM	SSPM
WAA	FAA	SAA
WBA	FBA	SBA
WCA	FCA	SCA
WSPA	FSPA	SSPA

type	# increase
Cereal	8
Muffins	10
Beverages	12

adding an item to the beverages would increase the # of combos by the most, 12.

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Booklet: 1403330014	**Response Code:** MA06216		A

+1 a) strategy only

+2 b) full credit

(3)

15. a) There are (24) possible combinations.
3 (cereal) x 4 (muffins) = 12 x 2 (beverages) = (24)

b)

School breakfast Menu		
Cereal	Muffins	Beverages
Wheat Flakes	Apple Banana	Milk
Fruit Hoops	Blueberry	Orange Juice
Sugar Curls	Chocolate Chip	
	Poppy Seed	
	Corn	

There are (30) possible combinations. I added one more muffin flavor to the menu. Then I multiplied.
3 (cereal) x 5 (muffins) = 15.
15 x 2 (beverages) = (30)

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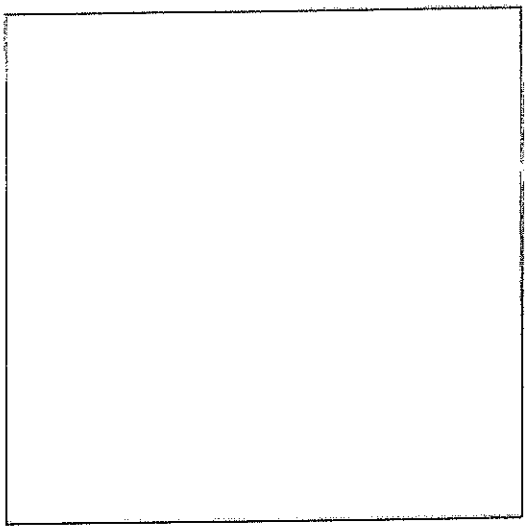
Booklet: 1403330287	**Response Code:** MA06216		A

+2 a) ✓
+1 b) explains # choices for one category

2 (3)

16. 8·24, since there are three cereals you can eat with four muffins and two beverages I multiplied them together

b. beverages



Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403330084	**Response Code:** MA06216	A

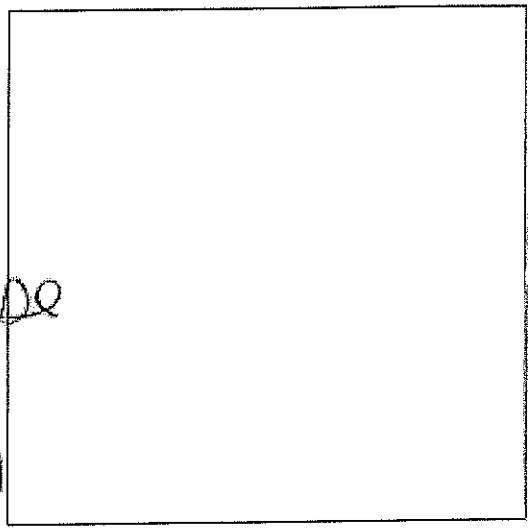
(2)

+2 a) ✓

b) no explanation

16. a.) There are 24 different breakfast combinations. I found my answer by sorting them out and pairing them up to see all the different choices.

b.) An item to the beverages category would increase the most possible number of combinations



Contract: 6351 Math	**Grade:** 07	**Content:** Math	A
Booklet: 1403330278	**Response Code:** MA06216		

+1 a) and only

0 b) insufficient

(1)

16. a- 24 I found the amount of cereal then multiplied by two for each other cereal + combination

b- Beverages because there is so many combinations to go along with +

Contract: 6351 Math	**Grade:** 07	**Content:** Math
Booklet: 1403330609	**Response Code:** MA06216	1

+1 a) ans ✓ ; insufficient explanation (1)

0 b) insufficient

16. (A)

Cereal	Muffins	Beverages	
Wheaties	Apple (5)	Milk (5)	orange (5)
Fruit (5)	Blue (5)	Milk (5)	or (5)
Sugar (5)	Chocolate (5)	Milk (5)	or (5)
	topps		or
		milk	or

3) combonations 10 for each group

(b) Cereal.- it is the main topping if you added another it would put you at a total of 54 combonations instead of 30 the other categorys would only give you 5 more or like a grand total of 35 or 30.

Contract: 6351 Math	**Grade:** 07	**Content:** Math	
Booklet: 1403330473	**Response Code:** MA06216		A

vague

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